Remarks

35 U.S.C. § 103 Rejection of Claims

In the 23 February 2005 office action, claims 107 – 121 and 133 - 146 are rejected under 35 U.S.C. § 103 (a) as being unpatentable over the combination of U.S. Patent 6,078,901 (hereinafter, Ching) and U.S. Patent 6,301,584 (hereinafter, Ranger). The Applicant respectfully traverses all § 103 rejections for claims 107 - 121 and 134 – 146 by noting that the 23 February 2005 office action fails to establish the prima facie case of obviousness required to sustain §103 rejections. A prima facie case for obviousness requires, among other things, a combination or modification of references that would make the invention obvious and a suggestion to combine or modify the references. More specifically, MPEP § 2143.01 provides:

> The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination.

The Applicant will detail at least two ways in which the 23 February 2005 office action fails to establish a prima facie case of obviousness for claims each of the claims 107 – 121 while noting that there are several other ways in which the § 103 rejections for these claims can be traversed.

One of the ways in which the 23 February 2005 office action fails to establish a prima facie case of obviousness for these claims is that it does not include references that can be combined or modified to describe a single claim, any combination of claims 107 – 121 or the invention as a whole as detailed below.

Independent claim 107 has three steps:
1. using metadata mapping to integrate organization related data,
2. quantifying organization risk by element of value, and
3. displaying the results using a paper document or an electronic display.

In the 23 February 2005 office action the Examiner cites a number of passages within Ching to support the contention that Ching quantifies organization risk by element of value and displaying the results to support the § 103 rejection of claim 107. The passages cited by the Examiner have been fully considered. However, it is more instructive to review the teachings of Ching on

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risk. The table below shows all the references in Ching to risk and the "teachings" regarding risk quantification contained in Ching.

Ching references to risk	Teachings
Background context (Column 1, L 10 to L50) Price is still an unsolved problem. It is a problem that has puzzled experts and laymen alike for over five thousand years, or for as long as history can recall. In spite of claims of breakthroughs by past thinkers and modern social scientists, all the current solutions to the problem of price determination cannot produce any deterministic, or non-arbitrary, price in practice. This invention is not just the first correct solution to price determination, but possibly the only usable deterministic method for price determination. In practice, the solution to price determination in this invention involves a deterministic infinite spreadsheet and a quantitative supply and demand model. Because reality is infinite, the current finite spreadsheet is actually a misrepresentation of reality. A typical example of finite spreadsheet is a good four years economic plan which ignores a possible economic downturn in the fifth year. The infinite spreadsheet is for determining the price of a single commodity and is used to derive the quantitative supply and demand model, which determines the price of multiple commodities which have uniform functionality and, because of competition, necessarily one uniform price.	Ching teaches price determination for a single commodity.
Reference 1 (Column 5, L2 to L 13) Value is defined in this invention as the sum total of all the expected future benefits and losses. Value is the total return, which is the sum of the monetary and the non-monetary returns. The total rate of return can be expected to be roughly constant because the market treats all investments equally. Thus, as a measure of such seemingly non-quantifiable entities as **risk**, happiness, pride of ownership, etc., non-monetary rate, represented by the difference between the total and the monetary rates of return, can be quantified in this solution to value.	Risk is a non monetary return similar to happiness, pride of ownership and other non monetary returns. Total non monetary returns can be calculated as the difference between the total rate of return and the monetary rate of return because the total rate of return is expected to be roughly constant (because Ching contends all investments are treated equally).
Reference 2 (Column 10, L27 to L38) The fundamental cause of the S&L crisis involves the banking deregulation policies which permit S&Ls to use deposits, which S&Ls can get from depositors at very low interest rates (around 4 to 8%), to invest in high-**risk** business ventures with high-return rates (40 to 100%). Since the deposits are insured by the U.S. government, S&Ls can get large amounts of funds at the relatively low interest rates. The government has upset the market equilibrium by insuring the deposits at insurance rates too	

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low to justify the **risk** under the free market conditions created by irrational market participants.	
Reference 3 (Column 10, L46 to L57) In addition, the unethical conduct and practices of the S&L managers contributed significantly to the severity of the S&L crisis under the absence of a correct method of valuation. The deregulation and, more importantly, the government's guarantee of the deposits provide the managers the legalized right and opportunity to **risk** depositors' money. When a risk-taking S&L gets caught in a bad economic situation, it may turn to even more risky or high-return, not excluding unethical, ventures to recapture its losses, especially when its losses have reached such a point that the S&L feels that it has little to lose and everything to gain financially by taking the **risks**.	
Reference 4 (Column 11, L3 to L41) If the stability of the U.S. banking system is too important to be left in the hands of the "unstable" free market, the only alternative would be to predict the insurance rates of the free market. The insurance rate should be proportional to the **risk** which is reflected in the rate of return on investment. **Risk** is a negative % non-monetary return which must be made up by the % monetary return in order to satisfy the constant % total return (roughly 10% for USA) of the economy. To determine the rate of return on investment, the calculation, as in the case of price determination, must involve the consideration, in general, of a future extended to infinity. The deterministic method is needed to determine the rate of investment return by inputting the selling price to determine the return. In conclusion, the interest rate should include in it the insurance rate increase, which reflects the **risk**. The rate of return may also be raised in order to justify the investment risk. For example, the interest rate for small business loans could be, and should be, much higher than the current going rates (around 6 to 16%) without seriously affecting the businesses because the rate of investment return for small businesses is around 40%. Also, for real estate development projects the rate of investment return is around 50 to 100%. A reasonable insurance rate increase should be added to the current interest rate to protect the government and ultimately the public in case of default. An investment opportunity or a loophole is created by the government when the insurance rate is not proportional to the rate of return, for both quantities reflect the **risk** of the investment. The loophole cannot be eliminated without a method for the determination of the rate of return. From the California rent control court cases, which tries to	**Risk** is a negative % non-monetary return which must be made up by the % monetary return in order to satisfy the constant % total return rate (roughly 10% for USA) of the economy.

determine the justified rate of return for landlords as required by the California State Constitution, it is realized that no method can deterministically calculate the rates of return for real estate investments. A market survey of the expected rate of return using actual sales data, where prices are known, can be done with the valuation system based on the deterministic method by inputting the price to determine the return.	

Reference 5 (Column 11, L48 to L58)
In relation to solving the S&L crisis, the deterministic solution to price can
   (1) translate (for market participants) market changes, such as changes in tax laws, inflation and interest rates, immediately into price changes,
   (2) determine the expected rates of investment return, which reflect the **risks** and, thus, to which the insurance rates should be proportional, and
   (3) keep the loan amount below the economic value, which can be derived by the deterministic method using economically reasonable inputs.
	Expected rates of investment return can be determined if one assumes that past prices for a commodity will always determine future prices and that total return from said investments is always approximately 10%.

Reference 6 (Column 16 and Column 17 excerpts) Beta: The measure of systematic risk Risk Risk Assessment Risk Aversion Risk Information Risk Coverage Analysis Risk Management	
Reference 7 (Column 18, L42 to L50) **Risks** and unexpected benefits, which are a form of positive risk, are examples of the non-monetary return which should be reflected in the change in the pure monetary rate of return. Thus, all research projects can be consistently treated as investments. In particular, public funding should be justified by public good. Knowledge in physical science is necessary not only in carrying out a research project but also in the valuation of the research result.	**Risks** and unexpected benefits, which are a form of positive risk, are examples of the non-monetary return which should be reflected in the change in the pure monetary rate of return.
Reference 8 (Column 27, L57 to Column 28, L2) However, the non-monetary return can be inferred quantitatively by expressing the returns in percentages. In particular, the percentage total return, logically, should be roughly the same for all the investments in a given economy. In practice, the percentage monetary return must be high enough to compensate for any low or negative percentage non-monetary return, and vice versa, in order to satisfy the requirement that the percentage total return is a constant. Thus, the non-monetary return, such as happiness, **risk**, etc., can be estimated from the difference between the percentage total return and the percentage monetary return. With the non-monetary	Non-monetary returns, such as happiness, **risk**, etc., can be estimated from the difference between the percentage total return and the percentage monetary return. With the non-monetary return accounted for quantitatively, value becomes completely quantifiable.

return accounted for quantitatively, value becomes completely quantifiable.	
Reference 9 (Column 29, L 48 to L57) Since there is no reason for the market to discriminate one investment over another, the % total return should be roughly the same for all types of investments. For example, when the **risk**, which is a form of negative % non-monetary return, is high, the % monetary return of the investment must also be high enough to compensate for the negative % non-monetary return, representing the risk, in order to satisfy the constant % total return of the market. Also, work which provides great personal satisfaction, which is a common form of positive % non-monetary return, is often that with low % monetary returns. It is by this ability to account for the intangible or non-monetary factors that value is quantified in the deterministic solution to value.	**Risk** is a non monetary return similar to the satisfaction derived from work and other non monetary returns. Total non monetary returns can be calculated as the difference between the total rate of return and the monetary rate of return because the total rate of return is expected to be roughly constant (because all investments are treated equally).

Summarizing the above, Ching teaches that:

1. the total monetary return from investing in a commodity (and other investments) should be roughly ten percent (in the U.S.), and
2. the difference between ten percent and the actual monetary return achieved by investing in a commodity or other investment is a function of non-monetary factors including risk, happiness, satisfaction from work and pride of ownership.

However, Ching does not teach how to separate risk from the other non monetary factors such as happiness or pride of ownership nor does it teach how to quantify any of the non monetary factors, including risk, before the actual returns are known. All of the Ching teachings also rely on an assumption that all investments should expect the same monetary return all the time.

Combining the preceding statements it is clear that Ching does not teach quantifying risk for commodity investments or anything else – even if the expected monetary returns for all investments were expected to be equal. Therefore, the §103 rejection of claim 107 is respectfully traversed by noting that Ching does not teach how to quantify risk by element of value and/or how to quantify risk of any type. As a result, Ching can not and does not teach the display of quantified risk. As detailed in the discussion of claim 133 below, Ranger fails to teach metadata mapping which serves to further solidify the traversal of the §103 rejection of claim 107. In short, the combination of Ching and Ranger can not be used to describe a single step in claim 107 or the claim as a whole.

In teaching that risk is a non-monetary factor Ching also teaches away from quantifying risk in any fashion. Given the preceding discussion, the Applicant objects to the statements made in relationship to claim 107 that "Ching discloses quantifying organization risk by element of value

using at least a portion of the data" as it does not appear to be supported by the cited reference. The Applicant also objects to the statement Ching discloses "displaying the quantified risks using a paper document or electronic display" as it does not appear to be supported by the cited reference.

In the 23 February 2005 office action the Examiner cites a number of passages within Ching to support the § 103 rejection of claim 108. The passages sited by the Examiner have been fully considered. However, the § 103 rejection of claim 108 is respectfully traversed by noting that Ching does not teach how to quantify risk by element of value (see claim 107 discussion) and/or how to optimize risk transfer/reduction as this activity requires, among other things, risk quantification. Given the preceding discussion, the Applicant objects to the statements made in relationship to claim 108 that "Ching further discloses calculating the amount of capital available for risk reduction purchases, identifying the optimal mix of risk reduction products and risk reduction activities given the quantified risks and available capital and displaying the optimal mix using a paper document or electronic display" as it does not appear to be supported by the cited reference.

The discussion of claims 109 shows the claim, the cited references, a listing of what is not described, made obvious or anticipated in the cited references, the overall conclusion regarding said claim and any objections regarding statements made to support the rejection.

109. (previously added) The computer readable medium of claim 108 where the method further comprises: implementing the optimal mix of risk reduction products and risk reduction activities in an automated fashion.
Cited reference 1 – Ching, Column 3, Lines 3 – 4 A reference for permanent software can be found in a patent of this author entitled "Completely Automated And Self-generating Software System" U.S. Pat. No. 5,485,601.
Cited reference 2 – Ching, Column 11, Lines 15 – 30 In conclusion, the interest rate should include in it the insurance rate increase, which reflects the risk. The rate of return may also be raised in order to justify the investment risk. For example, the interest rate for small business loans could be, and should be, much higher than the current going rates (around 6 to 16%) without seriously affecting the businesses because the rate of investment return for small businesses is around 40%. Also, for real estate development projects the rate of investment return is around 50 to 100%. A reasonable insurance rate increase should be added to the current interest rate to protect the government and ultimately the public in case of default. An investment opportunity or a loophole is created by the government when the insurance rate is not proportional to the rate of return, for both quantities reflect the risk of the investment.
Cited reference (Column 13, Line 22 through Column 18, Line 50) To summarize the background information for this invention, the following listing of valuation concepts have been categorized into seven groups, the first six of which relate to the current

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methods, and the last of which describes this invention. The defects of the first six groups are stated immediately under the group title, which is represented by a most popular representative and a general description for the group. No detailed description of the items are given because the listing is intended to be a way to summarily refuting the uncountable number of methods claiming to be solutions or partial solutions to price determination. The list is by no means exhaustive, but the most popular current valuation methods should fall within one of the first six groups.

(List omitted for space reasons – optimal resource allocation is listed)

The Financial Institutions Reform, Recovery and Enforcement Act of 1989 requires real estate appraisers to pass examinations on the proper methods of valuation. It should be a matter of great urgency that a correct solution to valuation be found to replace the current valuation methods, which, as recognized by knowledgeable real estate appraisers, are obviously incorrect and, in fact, one of the major causes of the Savings and Loan crisis, for which the law of 1989 was passed. Here is a prime example that a law of man is in conflict with a law of nature. Generally, pain and suffering are the means that nature let people or animals know that laws of nature have been violated. The preoccupation of religions with suffering is an indication that the laws of nature in social science are not yet known to us in the twentieth century.

Furthermore, the National Competitiveness Technology Transfer Act encourages scientists to look into the commercial values of research results. However, determining the value of a research project is even more important before it is carried out than after it has been done. The deterministic method could also lead to a rational method for determining research priorities, which, being a part of the big picture of decision making, should become a necessary knowledge for all policy makers. Risks and unexpected benefits, which are a form of positive risk, are examples of the non-monetary return which should be reflected in the change in the pure monetary rate of return. Thus, all research projects can be consistently treated as investments. In particular, public funding should be justified by public good. Knowledge in physical science is necessary not only in carrying out a research project but also in the valuation of the research result.

What is not described, made obvious or anticipated:
1) quantification of any risk (see claim 107 discussion),
2) identification of the optimal mix of risk reduction products and risk reduction activities (see claim 108 discussion),
3) implementing the optimal mix of risk reduction products and risk reduction activities in an automated fashion

Conclusion: Claim 109 is not described, anticipated or made obvious by the combination of Ching and Ranger.

Objection: The Applicant objects to the statement that "Ching further discloses implementing the optimal mix of risk reduction products and risk reduction activities in an automated fashion (Optimal Resource Allocation and Completely Automated And Self-generating Software System)" as it doesn't appear to be supported by the cited referenced.

Essentially identical portions of Ching were cited to support the rejection of claim 110 – 121. The table below shows the cited references that have been fully considered. Following the table containing the cited references, Claims 110 – 121 are each shown in separate table along with a listing of what is not described, made obvious or anticipated in the cited references, the overall conclusion regarding said claim and objections to statements in the office action (if any).

Cited reference 1 - Ching, C2 L57 to C3 L51
Reality is conceptually infinite in time and space. Examples of entities, which involve infinite time, are knowledge, materials, real estates, decisions, of which price is an important

representative, corporations, everything that affects corporations or businesses, DNA of the living organism, and everything that affects living organisms, particularly human beings. It appears that upon close observation, most things are infinite in nature, and, thus, they are within the domain of post-science. Post-scientific life science even tries to design permanent information systems, such as DNA and non-obsolescent software systems, which in turn can create things which will last forever. A reference for permanent software can be found in a patent of this author entitled "Completely Automated And Self-generating Software System" U.S. Pat. No. 5,485,601.

Empirical verification is the bulwark of physical science, but is possible only when a deterministic event, described by an equal number of equations and unknowns, occurs within a finite time interval; scientific predictions rely on the possibility of fitting deterministic future phenomena onto deterministic past phenomena. Physical science deals primarily with properties of matter, which can generally be studied within finite time.

Value, the foundation of social science, can be defined as the sum total of all the future benefits and losses in a semi-infinite time space. Deterministic sets of data can never be collected in value determination when the infinite future, which will never arrive, is involved. Therefore, empirical verification, or predictions based solely on past data, is generally not possible in social science. The influence of the scientific method with its reliance on empirical verifications based on past data is partly responsible for our inability to solve post-scientific problems. In post-science, acceptance of solutions must rely as much on logic and mathematical and scientific rigor as on empirical verification. Because post-scientific solutions are not always empirically verifiable, the training in physical science and demonstration of the ability in solving scientific problems should become a prerequisite for working in post-science.

In physical science, when a problem starts and terminates within a finite time interval, the past data can give a precise account of the entire problem. In social science involving infinity in time, a problem must be defined in a combined past and future space, because the infinite future never arrives and, thus, can never be a part of the past. Accordingly, physical science will provide not only an important starting point in the progress of reliable knowledge for prediction but also a reference point for post-science, to which appropriately it lends a part of its name.

Post-science deals with solutions beyond physical science; it involves social and life sciences, particularly, the determination of value and the study of life. According to post-science, nature, and nature alone, imposes unbreakable laws in physical and social sciences. The discovery of a first significant law of nature in social science, namely the solution to value and price, should immediately call to question the validity of all the man-made laws, customs, and traditions, and the entire legal system based on man-made laws. The solution to price, value, or decision making implies that in our current society no one knows how to make rational decisions. The solution to price is, therefore, a proof that our society is still not rational.

Cited reference (Column 4, Line 43 through Column 5, Line 38) :
The infinite spreadsheet is simply a manual or computerized spreadsheet which is extended to infinity in time. It is formed by piecing together an infinite number of finite spreadsheets, which are not overlapping due to their distinct time periods. It attempts to relate the price to the expected cash flows, the expected average rates of return, and all the resale prices in a numerically consistent fashion. It is merely an accounting of the expected future cash flows with the intention of determining the price based on the expected rate of return. Thus, the problem of price determination is the problem of filling in the values of the price and all the resale prices in the infinite spreadsheet in such a way that they are numerically consistent with the given expected cash flows and the given expected rate of returns. The quantitative supply and demand in this invention is based on the price determined by the infinite spreadsheet,

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which calculates just the price of one commodity. The quantitative supply and demand model sums up the calculations for each and every buyer or manufacturer or group of buyers or manufacturers of commodities with uniform functionality or utility to form respectively the demand and the supply. It then derives deterministically from the intersection of the supply and the demand curves the uniform price for all the commodities.

In this invention, the problem of price is derived from the fundamental problem of value. Since decisions are made based on value judgment, this invention could provide the basis for rational decision making. As a solution to value, it could also be the foundation of social science. Value is defined in this invention as the sum total of all the expected future benefits and losses. Value is the total return, which is the sum of the monetary and the non-monetary returns. The total rate of return can be expected to be roughly constant because the market treats all investments equally. Thus, as a measure of such seemingly non-quantifiable entities as risk, happiness, pride of ownership, etc., non-monetary rate, represented by the difference between the total and the monetary rates of return, can be quantified in this solution to value.

This invention deals primarily with the monetary rate of return, which can be easily calculated from the cash amount of the monetary return. Briefly, the monetary return is derived from the realistic accounting of the expected cash flows and any expected cash from resale of the entity being priced. The cash flows depend on all the factors affecting the price, such as income, expenses, vacancy, rent increases, taxes, transaction costs, finance, etc. This formulation establishes a deterministic relationship between the price and all the factors affecting the price in an expected time space extending from now to the infinite future.

Defining the problem of price determination as the problem of filling up the infinite spreadsheet has the advantage of easily identifying the unknown variables. In the calculation for the monetary return, the unknown variables to be determined are the price and the resale price, which is the future price after a given investment period. To be logically consistent, the same procedure for calculating the price should be applied to the resale price, the resale price of the resale price, and, in fact, all the future resale prices to infinity. Thus, the problem of price determination as described by the infinite spreadsheet has been reduced down to the problem of determining all the resale prices, from which the present price can be readily calculated.

Cited reference 3 - Ching, C8 L11 - 67 – see reference 5

Cited reference 4 – Ching, C9, L66 – Column 12, L6
In the late 1980s and the early 1990s, the monetary authorities in the United States of America are faced with a banking crisis caused by massive loan defaults. According to the government, the crisis was unpredictable and thus non-preventable. If the government is right, future economic disasters will also be unavoidable. The deterministic solution to price predicted the real estate slump of the 1980s and should be able to predict and prevent future economic and financial disasters. In the following, a detailed account of the real estate market of the 1980s will be provided, and the method of prevention will be described.

As the inflation of the 1970s subsided and the expectation of rent and housing prices increases remained high in the early 1980s, the real estate market changed from under-priced to over-priced. The problem with the market price is that it may not respond correctly to economic changes. A market price comparison appraisal gives the market price before the price has fully responded to the economic changes. The determination of price and, in general, decision making should be based on future financial expectations not past market data.

The market comparison approach by overvaluing real estate prices is one of the major causes of the S&L (Savings and Loan) crisis. However, the current mortgage default crisis brought about by the over-valuation represents but a symptom of a much more deeply rooted economic problem which was exposed only when the S&Ls were deregulated in the early

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1980s.

The fundamental cause of the S&L crisis involves the banking deregulation policies which permit S&Ls to use deposits, which S&Ls can get from depositors at very low interest rates (around 4 to 8%), to invest in high-risk business ventures with high-return rates (40 to 100%). Since the deposits are insured by the U.S. government, S&Ls can get large amounts of funds at the relatively low interest rates. The government has upset the market equilibrium by insuring the deposits at insurance rates too low to justify the risk under the free market conditions created by irrational market participants.

The situation is aggravated in many regions of the country by economic downturns which cause the market comparison approach to overvalue the real estate market. In this regard, it is only fair to add that had the economy been stable or improved, S&Ls might become the heroes of the business community, instead of the villains as they are now being portrayed.

In addition, the unethical conduct and practices of the S&L managers contributed significantly to the severity of the S&L crisis under the absence of a correct method of valuation. The deregulation and, more importantly, the government's guarantee of the deposits provide the managers the legalized right and opportunity to risk depositors' money. When a risk-taking S&L gets caught in a bad economic situation, it may turn to even more risky or high-return, not excluding unethical, ventures to recapture its losses, especially when its losses have reached such a point that the S&L feels that it has little to lose and everything to gain financially by taking the risks.

Furthermore, if the deregulation-induced fraudulent practices by S&L officials occur in the later stages of a S&L failure, they should be understood to be caused by rather than the cause of the S&L failure, particularly if considered from the point of view that the frauds are the result of business owners' trying to save themselves from their desperate predicaments. Over-emphasizing fraud as the main cause of the S&L, crisis is distracting attention from the basic cause, which is a lack of the correct knowledge about the market. It should be emphasized here that, as a general principle, real social progresses can only be made through advancements in knowledge.

If the stability of the U.S. banking system is too important to be left in the hands of the "unstable" free market, the only alternative would be to predict the insurance rates of the free market. The insurance rate should be proportional to the risk which is reflected in the rate of return on investment. Risk is a negative % non-monetary return which must be made up by the % monetary return in order to satisfy the constant % total return (roughly 10% for USA) of the economy. To determine the rate of return on investment, the calculation, as in the case of price determination, must involve the consideration, in general, of a future extended to infinity. The deterministic method is needed to determine the rate of investment return by inputting the selling price to determine the return.

In conclusion, the interest rate should include in it the insurance rate increase, which reflects the risk. The rate of return may also be raised in order to justify the investment risk. For example, the interest rate for small business loans could be, and should be, much higher than the current going rates (around 6 to 16%) without seriously affecting the businesses because the rate of investment return for small businesses is around 40%. Also, for real estate development projects the rate of investment return is around 50 to 100%. A reasonable insurance rate increase should be added to the current interest rate to protect the government and ultimately the public in case of default.

An investment opportunity or a loophole is created by the government when the insurance rate is not proportional to the rate of return, for both quantities reflect the risk of the investment. The loophole cannot be eliminated without a method for the determination of the rate of return. From the California rent control court cases, which tries to determine the justified rate of return

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for landlords as required by the California State Constitution, it is realized that no method can deterministically calculate the rates of return for real estate investments. A market survey of the expected rate of return using actual sales data, where prices are known, can be done with the valuation system based on the deterministic method by inputting the price to determine the return.

To summarize, the valuation system based on the deterministic solution to price establishes in a semi-infinite time space a complete mathematical relationship among all the market factors, including, in particular, the price and the rate of investment return. Thus, it can translate changes in the values of the inputs of the market variables immediately into changes in the price. In relation to solving the S&L crisis, the deterministic solution to price can

(1) translate (for market participants) market changes, such as changes in tax laws, inflation and interest rates, immediately into price changes,

(2) determine the expected rates of investment return, which reflect the risks and, thus, to which the insurance rates should be proportional, and

(3) keep the loan amount below the economic value, which can be derived by the deterministic method using economically reasonable inputs.

The traditional methods of appraisal, which have contributed to the S&L crisis, were made into official regulation of the government in the late 1980s. The formal recognition of the proven incorrect methods of appraisal indicates that the society is still ignorant of the existence of this deterministic solution to price determination and that this invention is completely novel.

Cited reference 5 - Ching, C8 L11 – L67
The deterministic method has been used to value numerous goods and services and to check against actual investment markets. At first, it might be suspected that the past data and the markets would not yield sufficient information or information accurate enough to produce useful results. It turns out that for many investment markets, especially those requiring a multiple-commodity price model to describe, inputs obtained under budget constraints were insufficient or not stable enough to provide reliable results; it would require a very large amount of resources for collecting, updating and analyzing the data.

However, there is and will be one important exception. This exception is the real estate market. Even with very limited resources, reasonable inputs could be obtained for all the needed variables of the real estate market. Reasonable inputs are here defined as those which will be accepted by both the buyer and the seller, the two opposing parties in a transaction. In fact, the real estate market provided more inputs than is requested by the deterministic method and, thus, would cause serious contradictions in the infinite spreadsheet.

The real estate market represents a mature and stable industry. It is ready to provide all the information needed by the deterministic method for analyses. When the information is inputted into and checked by the deterministic method, it is generally found to be mathematically inconsistent. For example, the price does not match the expected rate of investment return. The market is generally irrational.

To further demonstrate this important market constraint, the following simple case is used as an illustration. The equation $x+y=z$ with three variables, instead of the minimum of about 50 variables for the real estate market, is used for this example. What the market is saying, in essence, is that $x=2$, $y=3$, and $z=7$ (which should be $z=2+3=5$), while the law of mathematics dictates that the third variable, namely z, should be determined from the equation after the first two variables have been assumed. Similarly, the deterministic method specifies that the market or the investor can assume all but the last variable. A market which decides all the

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inputs without knowing the relationship of the inputs is irrational according to the deterministic solution to price. The Savings and Loan (S&L) crisis of the 1980s and the 1990s verifies this conclusion empirically; in this crisis, the final outcome of the investment, the actual (disastrous and unexpected) investment return, is determined by the market after the market participant, unaware of the constraint of the deterministic solution to price, has overvalued the market price.

The deterministic method of price determination can be used to make price predictions when all but the price and all the resale prices are known. The possibility of predicting social and economic phenomena implies the existence of laws of nature in social science, which constrains our behavior, as our current ability to predict physical phenomena implies the existence of absolute laws in physical science, which constrain the motion of material objects.

Cited reference (Column 13, Line 22 through Column 18, Line 50)
To summarize the background information for this invention, the following listing of valuation concepts have been categorized into seven groups, the first six of which relate to the current methods, and the last of which describes this invention. The defects of the first six groups are stated immediately under the group title, which is represented by a most popular representative and a general description for the group. No detailed description of the items are given because the listing is intended to be a way to summarily refuting the uncountable number of methods claiming to be solutions or partial solutions to price determination. The list is by no means exhaustive, but the most popular current valuation methods should fall within one of the first six groups.
(List omitted for space reasons)
The Financial Institutions Reform, Recovery and Enforcement Act of 1989 requires real estate appraisers to pass examinations on the proper methods of valuation. It should be a matter of great urgency that a correct solution to valuation be found to replace the current valuation methods, which, as recognized by knowledgeable real estate appraisers, are obviously incorrect and, in fact, one of the major causes of the Savings and Loan crisis, for which the law of 1989 was passed. Here is a prime example that a law of man is in conflict with a law of nature. Generally, pain and suffering are the means that nature let people or animals know that laws of nature have been violated. The preoccupation of religions with suffering is an indication that the laws of nature in social science are not yet known to us in the twentieth century.

Furthermore, the National Competitiveness Technology Transfer Act encourages scientists to look into the commercial values of research results. However, determining the value of a research project is even more important before it is carried out than after it has been done. The deterministic method could also lead to a rational method for determining research priorities, which, being a part of the big picture of decision making, should become a necessary knowledge for all policy makers. Risks and unexpected benefits, which are a form of positive risk, are examples of the non-monetary return which should be reflected in the change in the pure monetary rate of return. Thus, all research projects can be consistently treated as investments. In particular, public funding should be justified by public good. Knowledge in physical science is necessary not only in carrying out a research project but also in the valuation of the research result.

Cited reference 7 - Ching, C30 L15- L23
It is advisable to follow the realistic situation as closely as possible in formulating a problem of nature, or of the market in this case, because real conditions can always be simulated regardless how complex they are. The deterministic method, for example, lumps all the factors affecting the price into a finite number of market variables whose mathematical relationships are established by a realistic accounting of future cash receipts in a space extended to infinity

in time.

Cited reference 7, Ching, Column 39, Line 50 through Column 40, Line 30
FIG. 19 shows an example of market comparable survey using the real estate and the business investment markets and is a very important part of the overall deterministic method of price determination. The survey makes the inputs not only reliable, but also deterministic. For instance, each of the six listings in a Section 192 of FIG. 19, must use the same, or similar, value for the rate of increase of net income %N, whose definition is given in a Section 191 of FIG. 19.

To be noted in Section 192 of FIG. 19 are the first two records, which correspond to the sale and lease back transaction of FIGS. 15, 16, 17, 18, and 21. In particular, Record #1 is derived directly from FIG. 18, and Record #2, from FIG. 21. In practice, FIG. 19 could provide one of the most useful evidences to convince investors the validity of the price calculated using the deterministic method of price determination.

Furthermore, the real estate market due to its very mature information system usually provides one more than the number of input data which are required by the deterministic valuation system. Market surveys using the deterministic method of price determination have shown that the market price is generally inconsistent with the investment expectations; the irrational market participants, who do not have access to a rational method of valuation, have created an irrational market. Thus, it can also be suspected that the discrepancy between the market price and the calculated price has been the main cause of most economic disasters in the past.

Since the market price is generally incorrect, its availability, in principle, is not always necessary in valuation practices. In particular, the value of intellectual properties, for example, even without a market can be determined by the infinite spreadsheet where the rate of return is inferred theoretically from a comparison with the known rates of return surveyed from the market. Adjustments can be made by extrapolation and only approximate value is needed to make the rate of return a reasonable input.

From the hypothetical appraisal, it can be seen that the problem of valuation in real estate finally boils down mainly to the collection of input data for Item #2, the income, and Item #3, the expenditure. Valuation is further simplified by the flexible requirement that the income and the expenditure need only to be reasonable estimations. The accuracy will improve naturally with experience. However, the decisions will not be affected significantly by the improved accuracy, for social science, unlike physical science, does not seem to need to be exact; it only needs to be quantitative and reasonably accurate.

Cited reference 9 - Ching, C48 L33 to C49 L18
Furthermore, social science may appear important to a culture dominated by physical science. It can be used to determine the value of the temporary creations of physical science, which generally have finite values. However, the usefulness of social science with its ability to consider phenomena of infinite duration will not be fully realized until it is used to value permanent creations, especially permanent software or knowledge stored in a permanent format. Permanent creations, such as permanent software and DNA, should be infinitely more valuable than temporary creations. Thus, post-scientific life science will change our perceptions of physical and social sciences.

Life science with nearly unlimited and virtually unrestricted complexity is willing to settle for any qualitative workable results. Thus, life science might be mainly qualitative in nature. As shown in this invention, social science is quantitative in nature. Only the simple physical science can claim exact solution. It appears that the product of complexity and accuracy could be a sort of

invariance.

Of all the drawings to help readers understand the patent, what is really needed is a pictorial outline of the complex maze of the claim section. The outline should especially show the seemingly redundant interplay of all the claims. FIG. 29 shows a map of the claims and illustrates this novel suggestion in patent writing. It should also be helpful to the inventor(s) in planning and structuring the claims in graphical form before the inventor(s) describes the claims in words. It should be very helpful to the examiners, who are new to the ideas in the invention.

In FIG. 29, blocks 291 to 298 are·the claims for the infinite spreadsheet and the mutually dependent system of the combination of the quantitative supply and demand model and the infinite spreadsheet. The map has simplified considerably the organization of the claims and has reduced appreciably their number.

There does not seem to be any patented prior art devices for price determination. The novel design specifications of this device not only enable the deterministic calculation of price, but also greatly simplify the construction of such a device for price determination. It appears that this device and the objects which it tries to achieve are completely original and novel.

It should be apparent from the foregoing description of the invention, in its form of a device for price determination, that it will fulfill all the objects attributable thereto, and the invention shall not be limited to the present model or to the sole determination of price. The invention could be of a mechanical, chemical as well as an electrical device. While the preferred embodiments of the invention have been illustrated and described, it is to be understood that the actual apparatus is not limited to the precise construction herein disclosed and the right is reserved to all changes and modifications coming within the scope of this completely novel invention as defined by the appended claims.

110. (previously added) The computer readable medium of claim 107 where organization related data is obtained from the group consisting of advanced financial systems, basic financial systems, web site management systems, alliance management systems, brand management systems, customer relationship management systems, channel management systems, intellectual property management systems, process management systems, vendor management systems, operation management systems, sales management systems, human resource systems, accounts receivable systems, accounts payable systems, capital asset systems, inventory systems, invoicing systems, payroll systems, enterprise resource planning systems (ERP), material requirement planning systems (MRP), scheduling systems, quality control systems, purchasing systems, the Internet, external databases, user input and combinations thereof.

What is not described, made obvious or anticipated:
    1) quantification of any risk (see claim 107)
    2) obtaining organization related data from the group consisting of advanced financial systems, basic financial systems, web site management systems, alliance management systems, brand management systems, customer relationship management systems, channel management systems, intellectual property management systems, process management systems, vendor management systems, operation management systems, sales management systems, human resource systems, accounts receivable systems, accounts payable systems, capital asset systems, inventory systems, invoicing systems, payroll systems, enterprise resource planning systems (ERP), material requirement planning systems (MRP), scheduling systems, quality control systems, purchasing systems, the Internet, external databases, user input and combinations thereof.

Conclusion: Claim 110 is not described, anticipated or made obvious by the combination of Ching and Ranger.
Objection: The Applicant objects to the statement that "Ching discloses where organization related data is obtained from the group consisting of advanced financial systems, basic financial systems, web site management systems, alliance management systems, brand management systems, customer relationship management systems, channel management systems, intellectual property management systems, process management systems, vendor management systems, operation management systems, sales management systems, human resource systems, accounts receivable systems, accounts payable systems, capital asset systems, inventory systems, invoicing systems, payroll systems, enterprise resource planning systems (ERP) material requirement planning systems (MRP) scheduling systems, quality control systems, purchasing systems, the Internet, external databases, user input and combinations thereof" as it doesn't appear to be supported by the cited referenced.

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111. (previously added) The computer readable medium of claim 107 wherein the organization comprises an enterprise, a multi-enterprise organization or a value chain.

What is not described, made obvious or anticipated:
1) quantification of any risk (see claim 107)
2) for an organization that comprises an enterprise, a multi-enterprise organization or a value chain.

Conclusion: Claim 111 is not described, anticipated or made obvious by the combination of Ching and Ranger.

Objection: The Applicant objects to the statement that Ching teaches "wherein the organization comprises an enterprise, a multi-enterprise organization or a value chain" as it does not appear to be supported by the cited references.

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112. (new) The computer readable medium of claim 111 wherein an enterprise comprises a single product, a group of products, a division or a company.

What is not described, made obvious or anticipated:
1) quantification of any risk (see claim 107)
2) for an organization that comprises an comprises a single product, a group of products, a division or a company.

Conclusion: Claim 112 is not described, anticipated or made obvious by the combination of Ching and Ranger.

Objection: The Applicant objects to the statement that Ching discloses "wherein an enterprise comprises a single product, a group of products, a division or a company" as it does not appear to be supported by the cited references.

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113. (previously added) The computer readable medium of claim 107 where the elements of value are selected from the group consisting of alliances, brands, channels, customers, customer relationships, employees, intellectual property, partnerships, processes, production equipment, supply chain, vendors, vendor relationships and combinations thereof.

What is not described, made obvious or anticipated:
1) quantification of any risk (see claim 107),
2) where elements of value are selected from the group consisting of alliances, brands, channels, customers, customer relationships, employees, intellectual property, partnerships, processes, production equipment, supply chain, vendors, vendor relationships and combinations thereof.

Conclusion: Claim 113 is not described, anticipated or made obvious by the combination of Ching and Ranger.

Objection: The Applicant objects to the statement that Ching discloses "where the elements of value are selected from the group consisting of alliances, brands, channels, customers, customer relationships, employees, intellectual property, partnerships, processes, production equipment, vendors, vendor relationships and combinations thereof" as it does not appear to be supported by the cited references.

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114. (previously added) The computer readable medium of claim 107 where the risks are from the group consisting of fire risks, earthquake risks, flood risks, weather risks, contingent liabilities and combinations thereof.

What is not described, made obvious or anticipated:
1) quantification of any risk (see claim 107),
2) where the risks are from the group consisting of fire risks, earthquake risks, flood risks, weather risks, contingent liabilities and combinations thereof.

Conclusion: Claim 114 is not described, anticipated or made obvious by the combination of Ching and Ranger.

Objection: The Applicant objects to the statement that Ching discloses "where the risks are from the group consisting of fire risks, earthquake risks, flood risks, weather risks, contingent liabilities and combinations thereof" as it does not appear to be supported by the cited references.

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115. (previously added) The computer readable medium of claim 107 wherein the risks are quantified under scenarios from the group consisting of normal, extreme and combinations thereof.

What is not described, made obvious or anticipated:
1) quantification of any risk (see claim 107),
2) where the risks are quantified under scenarios from the group consisting of normal, extreme and combinations thereof.

Conclusion: Claim 115 is not described, anticipated or made obvious by the combination of Ching and Ranger.

Objection: The Applicant objects to the statement that Ching discloses "wherein the risks are quantified under scenarios from the group consisting of normal, extreme and combinations thereof" as it does not appear to be supported by the cited references.

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116. (new) The computer readable medium of claim 107 where quantifying risks by element of value further comprises:
developing element impact summaries that incorporate one or more transaction indicators,
quantifying the relationship between elements of value and the categories of value using said summaries,
quantifying organization risks,
simulating organization financial performance using said indicators and risks,
quantifying the impact on financial performance caused by the risk induced change in the one or more indicators included in each element impact summary using said simulations and the established relationships between element impact summaries and the categories of value.

What is not described, made obvious or anticipated:
1) quantification of any risk (see claim 107),
2) developing element impact summaries that incorporate one or more transaction indicators, quantifying the relationship between elements of value and the categories of value using said summaries, quantifying organization risks, simulating organization financial performance using said indicators and risks, quantifying the impact on financial performance caused by the risk induced change in the one or more indicators included in each element impact summary using said simulations and the established relationships between element impact summaries and the categories of value.

Conclusion: Claim 116 is not described, anticipated or made obvious by the combination of

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Ching and Ranger.
Objection: The Applicant objects to the statement that Ching discloses "developing element impact summaries that incorporate one or more transaction indicators, quantifying the relationship between elements of value and the categories of value using said summaries, quantifying organization risks, simulating organization financial performance using said indicators and risks, quantifying the impact on financial performance caused by the risk induced change in the one or more indicators included in each element impact summary using said simulations and the established relationships between element impact summaries and the categories of value" as it does not appear to be supported by the cited references.

117. (previously added) The computer readable medium of claim 107 wherein the quantified risks by element of value are further identified by category of value where the categories of value are selected from the group consisting of current operation, real options, market sentiment and combinations thereof.

What is not described, made obvious or anticipated:
    1) quantification of any risk (see claim 107),
    2) wherein the quantified risks by element of value are further identified by category of value where the categories of value are selected from the group consisting of current operation, real options, market sentiment and combinations thereof.

Conclusion: Claim 117 is not described, anticipated or made obvious by the combination of Ching and Ranger.
Objection: The Applicant objects to the statement that Ching discloses "wherein the quantified risks by element of value are further identified by category of value where the categories of value are current operation, real options and market sentiment" as it does not appear to be supported by the cited references.

118. (new) The computer readable medium of claim 108 where the risk transfer products are insurance, derivatives and combinations thereof.

What is not described, made obvious or anticipated:
    1) quantification of any risk (see claim 107 discussion),
    2) identification of the optimal mix of risk reduction products and risk reduction activities (see claim 108 discussion),
    3) where the risk transfer products are insurance, derivatives and combinations thereof.

Conclusion: Claim 118 is not described, anticipated or made obvious by the combination of Ching and Ranger. The relevance of the statement in this section of the office action regarding known securities (insurance, derivative, etc.) and risk factors is not clear.
Objection: The Applicant objects to the statement regarding securities to the extent that the Examiner is attempting to use the irrelevant statement to modify the lexicon of the instant Application and/or related applications.

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119. (previously added) The computer readable medium of claim 108 where the optimal mix is determined using a multi-criteria optimization for a combined normal and extreme scenario.

What is not described, made obvious or anticipated:
   1) quantification of any risk (see claim 107 discussion),
   2) identification of the optimal mix of risk reduction products and risk reduction activities (see claim 108 discussion),
   3) where the optimal mix is determined using a multi-criteria optimization for a combined normal and extreme scenario.

Conclusion: Claim 119 is not described, anticipated or made obvious by the combination of Ching and Ranger.
Objection: The Applicant objects to the statement that "Ching discloses where the optimal mix is determined using a multi-criteria optimization for a combined normal and extreme scenario" as it does not appear to be supported by the cited reference.

120. (previously added) The computer readable medium of claim 109 where implementing the optimal mix of risk reduction products and risk reduction activities further comprises:
   completing the purchase of risk transfer products in an automated fashion, and
   identifying changes in operating limits by organization system, and
   communicating the changes in operating limits to organization systems.

What is not described, made obvious or anticipated:
   1) quantification of any risk (see claim 107 discussion),
   2) identification of the optimal mix of risk reduction products and risk reduction activities (see claim 108 discussion),
   3) implementing the optimal mix of risk reduction products and risk reduction activities further comprises: completing the purchase of risk transfer products in an automated fashion, identifying changes in operating limits by organization system, and communicating the changes in operating limits to organization systems (see 109 discussion for further evidence).

Conclusion: Claim 120 is not described, anticipated or made obvious by the combination of Ching and Ranger.
Objection: The Applicant objects to the statement that "Ching discloses where implementing the optimal mix of risk reduction products and risk reduction activities further comprises: completing the purchase of risk transfer products in an automated fashion, and identifying changes in operating limits by organization system" as it does not appear to be supported by the cited reference.

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121. (new) The computer readable medium of claim 120 where organization systems are selected from the group consisting of advanced financial systems, basic financial systems, alliance management systems, brand management systems, customer relationship management systems, channel management systems, intellectual property management systems, process management systems, vendor management systems, operation management systems, sales management systems, human resource systems, accounts receivable systems, accounts payable systems, capital asset systems, inventory systems, invoicing systems, payroll systems, enterprise resource planning systems (ERP), material requirement planning systems (MRP), scheduling systems, quality control systems, purchasing systems and combinations thereof.

What is not described, made obvious or anticipated:
1) quantification of any risk (see claim 107 discussion),
2) identification of the optimal mix of risk reduction products and risk·reduction activities (see claim 108 discussion),
3) implementing the optimal mix of risk reduction products and risk reduction activities further comprises: completing the purchase of risk transfer products in an automated fashion, identifying changes in operating limits by organization system, and communicating the changes in operating limits to organization systems (see 109 discussion for further evidence),
4) organization systems selected from the group consisting of advanced financial systems, basic financial systems, alliance management systems, brand management systems, customer relationship management systems, channel management systems, intellectual property management systems, process management systems, vendor management systems, operation management systems, sales management systems, human resource systems, accounts receivable systems, accounts payable systems, capital asset systems, inventory systems, invoicing systems, payroll systems, enterprise resource planning systems (ERP), material requirement planning systems (MRP), scheduling systems, quality control systems, purchasing systems and combinations thereof.

Conclusion: Claim 121 is not described, anticipated or made obvious by the combination of Ching and Ranger.

Objection: The Applicant objects to the statement that Ching discloses "communicating the changes in operating limits to organization systems, where organization systems are selected from the group consisting of advanced financial systems, basic financial systems, alliance management systems, brand management systems, customer relationship management systems, channel management systems, intellectual property management systems, process management systems, vendor management systems, operation management systems, sales management systems, human resource systems, accounts receivable systems, accounts payable systems, capital asset systems, inventory systems, invoicing systems, payroll systems, enterprise resource planning systems (ERP), material requirement planning systems (MRP), scheduling systems, quality control systems, purchasing systems and combinations thereof" as it does.not appear to be supported by the cited reference.

Summarizing the information contained in the tables above, the combination of Ching and Ranger cannot be combined or modified to describe a single one of the claims in the range starting at claim 107 and ending at claim 121, any combination of the claims in the range between from 107 through 121 and/or the invention as a whole.

Another way in which the 23 February 2005 office action fails to establish a prima facie case of obviousness for claims 107 - 121 is that it does not provide any evidence indicating that there was any suggestion, teaching or motivation in the prior art to modify or combine the teachings of Ching and Ranger. It is well established that when determining obviousness, "a showing of a suggestion, teaching or motivation to combine prior art references is an essential component of an obviousness holding'" (In re Fine, 837 F.2d 1071, 1075, 5 USPQ2d 1596, 1600 (Fed. Cir. 1988)). The Applicant notes that there are still other ways in which the § 103 (a) obviousness rejections to claims 107 - 121 in the 23 February 2005 office action can be traversed.

The meaning of the second sentence in the phrase shown below (that is included in this section of the office action) is not clear.

Ching, explicitly, does not disclose where the risk transfer products are insurance, derivatives and combinations thereof. However these are known product with associated risk factors.

The relevance of the second sentence is also not clear because as detailed in the discussion of claims 107 - 121 Ching does not describe the quantification of risk, the transfer of risk and/or the optimization of risk.

The Applicant will next detail at least two ways in which the 23 February 2005 office action fails to establish a prima facie case of obviousness for each of the claims 133 – 146 while noting that there are several other ways in which the §103 rejections for these claims can be traversed. Because claim 133 was not listed in the range for a §103 rejection, this response will also traverse a §102 rejection for this claim.

One of the ways in which the 23 February 2005 office action fails to establish a prima facie case of obviousness for these claims is that it does not include references that can be combined or modified to describe a single claim, any combination of claims or the invention as a whole as detailed below.

Essentially identical portions of Ranger were cited to support the rejection of claim 133 – 146. The table below shows the cited references that have been fully considered. Following the table containing the cited references, Claims 133 – 146 are each shown in separate table along with a listing of what is not described, made obvious or anticipated in the cited references,

the overall conclusion regarding said claim and objections to related statements in the office action (if any).

Cited reference 1 – Ranger, Abstract; Figure 3, 5 – 14
A data integration system and method gathers information dynamically from one or more data sources, which may be located at different servers and have incompatible formats, structures the information into a configurable, object-oriented information model, and outputs the information for the user according to an associated, configurable visual representation with automatic content classification.

Cited reference 2 - Ranger, C1 L15 to C2 L59
FIELD OF THE INVENTION The present invention relates to data processing and, more particularly, to information discovery and visualization.

BACKGROUND OF THE INVENTION There is a vast amount of information in the world today that is available by computer. For example, on the World Wide Web alone there are millions of web pages. In addition to the Internet, companies have set up local "intranets" for storing and accessing data for running their organizations. However, the sheer amount of available information is posing increasingly more difficult challenges to conventional approaches. A major difficulty to overcome is that information relevant to a purpose of a user is often dispersed across the network at many sites. It is often time-consuming for a user to visit all these sites. One conventional approach is a search engine. A search engine is actually a set of programs accessible at a network site within a network, for example a local area network (LAN) at a company or the Internet and World Wide Web. One program, called a "robot" or "spider," pre-traverses a network in search of documents and builds large index files of keywords found in the documents. A user of the search engine formulates a query comprising one or more keywords and submits the query to another program of the search engine. In response, the search engine inspects its own index files and displays a list of documents that match the search query, typically as hyperlinks. When a user activates one of the hyperlinks to see the information contained in the document, the user exits the site of the search engine and terminates the search process. Search engines, however, have their drawbacks. For example, a conventional search engine suffers from obsolescence of data in its search indexes due to pre-traversing a network to index documents. Documents are constantly being updated, but it may take months for the new information to filter down to search engines. Furthermore, a search engine is oriented to discovering textual information only. In particular, conventional search engines are not well-suited to indexing information contained in structured databases, e.g. relational databases, and mixing data from incompatible data sources is difficult in conventional search engines.

Attempts have been made to present search results in an object-oriented fashion by homogenizing the search results into an "entity" that is an instance of a specified class, which may be hierarchically dependent upon another "base" class. A class specifies the attributes or properties of an entity, and a dependent class includes the attributes of the base class and additional attributes. A problem with such attempts is that the particular data returned for a particular entity is restricted to the attributes defined for the specified class of the entity. This restriction means that if the entity to be returned actually belongs to a dependent class, hierarchically dependent upon the specified class, the number of attributes returned to the user will be limited to the properties for the base class, not the dependent class. Consequently, some search results will be not be found and presented to the user. If, however, the user wants to check if a particular entity belongs to a dependent class, another query to the system has to be submitted, specifying the particular dependent class. This checking operation becomes more time consuming as more dependent classes are specified and more entities

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are found.

SUMMARY OF THE INVENTION There exists a need for a mechanism to collect relevant information located at a plurality of sites and stored in plurality of incompatible formats according to configurable search strategies. These and other needs are met by the present invention, which dynamically gathers information from a diversity of data sources with agents, organizes the information in an configurable, information model, and visualizes the information according to a view.

Accordingly, one aspect of the invention relates to an entity retrieving system connectable to at least one data source comprising a memory and a processor connected to an interface. The memory stores a number of classes, in which each class defines the structure of an entity, including property definitions that identify property values stored in the data sources and to be retrieved dedicated to the property definition. The classes include at least one dependent class that is hierarchically linked to at least one other class and contains additional property definitions specifying additional property values, in addition to the property values of the class from which it depends. The processor, in cooperation with the interface, is configured for receiving a query, which includes an identifier for identifying a particular class and at least one of the property values. The processor also selects, among the classes, the particular class dedicated to the identifier under control of said query, accesses the data sources, retrieves property values pertaining to at least one particular entity that comprises that property value, and outputs the retrieve entities. Upon establishing that the particular entity pertains to one of said dependent classes of the selected particular class, the processor is configured to retrieve the additional properties of the dependent class. According to another aspect, the processor is configured for invoking a plurality of agents concurrently to gather the requested information from the data sources. Additional objects, advantages, and novel features of the present invention will be set forth in part in the description that follows, and in part, will become apparent upon examination or may be learned by practice of the invention. The objects and advantages of the invention may be realized and obtained by means of the instrumentalities and combinations particularly pointed out in the appended claims.

Cited reference 3 - Ranger, C3 L30 - L38
A method and apparatus for data integration are described. In the following description, for purposes of explanation, numerous specific details are set forth in order to provide a thorough understanding of the present invention. It will be apparent, however, that the present invention may be practiced without these specific details. In other instances, well-known structures and devices are shown in block diagram form in order to avoid unnecessarily obscuring the present invention.

Cited reference 4 - Ranger, C5 L42 to C6 L23
Each web server implementation of the present invention includes an information "metamodel" for information discovery, modeling, and visualization. A metamodel is a structured, generic model used as a framework for implementing specific information models, examples of which are illustrated in FIGS. 7, 8, 9. Referring to FIG. 3, depicted is one data structure of a general-purpose information metamodel 200 for defining and configuring the information models and visual representations stored at a server.

Information metamodel 200 is a way of generically organizing information about specific information models. Accordingly, data structures for information metamodel 200 define a set of data types, describing how classes of the information model are defined, how objects in the information model are instantiated, and how objects are displayed. According to one embodiment, the data structures for information metamodel 200 are implemented within a relational database. Each data type in the information metamodel 200 corresponds to a table in the relational database, each instance of a data type is stored as a row or "entry" in a table

corresponding to the type, and the fields of each data type correspond to columns in the corresponding table. Persons of skill in the art would readily recognize that the information metamodel 200 may be implemented in a variety of ways other than with a relational database, for example, by a collection of persistent objects defined with an object-oriented language such as C++, Smalltalk, and Java, or files of records or structures of a procedural language such as C, Pascal, Ada, BASIC, FORTRAN, COBOL, PL/I, and the like. In accordance with one embodiment, FIG. 3 shows a number of data types, each data type having a number of fields, and each field defining a certain function. Many to one relationships between the fields are indicated by interconnecting lines with an indication ".infin." on the many side and "1" on the one side. For example, an instance (an object of data type Instance 215) may have many attributes 211. Accordingly, there is an indication ".infin." on the many side of the Instance field 211-1 and an indication "1" on the one side of the Instance field 215-1. Closely related data types defined by information metamodel 200 are grouped in three related layers: a data layer 210, a conceptual layer 220, and a visualization layer 230. The conceptual layer 220 acts as an intermediary between the data layer 210 and the visualization layer 230 and comprises data types that describe how information is organized within a defined information model.

Cited reference 5 - Ranger, C9 L6 to C10 L40

The visualization layer 230 comprising knowledge from which a predetermined presentation of an entity is selected and produced. A view is here defined as what a group of users is allowed to see; it is represented as a set of templates attached to classes. It should be noted that some classes can have no template for a given view, meaning that the user has no access to the data requested or that there is a view to be inherited from one classes from which the dependent class depends, or that a default view has been assigned. A class view data type 233 provides a determination of a single template given a view and a class, or a single view given a template and a class or a list of classes given a template and a view. This data type comprises the fields:

    233-1 Class View: identifier, e.g. a serial number, for a class view
    223-2 Class: identifier of the Class 225-1 to which the class view is dedicated
    223-3 View: identifier of the View 239-1 to which the class view is dedicated
    223-4 Template: identifier of the Template 235-1 to which the class view is dedicated

To each class view, one or more class view mappings can be dedicated. The class view mappings data type 231 holds variable substitution data. When a template is processed, for example as HTML or VRML generation, "value holders" such as "%supplier" are substituted by their values. A value holder can refer by name either to a class defined attribute, a class view mapping variable or a template variable. An attribute has precedence over a class view mapping variable which has precedence over a template variable. In other words, the value of a value holder in a template will default to the value of a template variable only as a last resort.

The class view mappings data type 231 comprises the fields:
    231-1 Class view: identifier of the Class View 223-1 to which the class view mapping is dedicated.
    231-2 Name: the name of the variable, for example supplier.
    231-3 Expansion: a value of a variable, in particular a template.
Class views are dedicated to views. The view data type 239 comprises the definition of a view. A view represents what a group of users is allowed to see. A view is a set of templates assigned to classes. Each template is retrievable from the class view table, given the view and a class. The view data type comprises the fields:
    239-1 View: a unique identifier for the view.
    239-2 Name: the name of the view, for example "Inventory managers"
    239-3 Description: provided for holding annotations
    239-4 Links: the text of a default link template for the view, which is used when no template

of the type link (see 235-3) has been dedicated to a view.

239-5 Generic template: identifier of a default template 237-1 used when more than one empty is found; although the user has requested for one entity, for example one book; this can occur when there is a "conflict of opinion" as will be explained further.

239-6 Authentication: indicates the name of a user's group if the present view is restricted to particular users. A password could be requested for some particular views. This password protection of views is performed with techniques known as such.

Each class view is dedicated to a template. The templates data type 235 comprises data related for producing a presentation of an instance of a class, for example HTML, XML or VRML presentations. This data type comprises the fields:

235-1 Template: a unique identifier for a template

235-2 Name: text indicating the name of the template

235-3 Type: indicates the type of the template, for example an object template (in particular an item), a space template (in particular a page), a link template (for representing a value of an attribute, in particular a hyperlink), . . .

235-4 Specialty: determines the presentation medium, for example HTML, VRML, XML, etc.

235-5 Description: enables the manager of the system to add comments and annotations

235-6 Content: gives the actual test of the template, this embedded value holders

235-7 Extent: indicates spatial dimensions for three dimensional object or spaces for VRML presentations

Each template may comprise a number of template attributes. The template attributes data type 237 comprises template variables used in value substitution, as explained with reference to the class view mappings data type 231. The template attributes data type 237 comprises the fields:

237-1 Template: identifier of the template 235-1 to which the template attributes is dedicated

237-2 Name: identifies the name of the variable.

237-3 Default value: if applicable, a default value of that variable

Cited reference 6 - Ranger, C12 L59 to C13 L5

In step 406, when instance resolution results in one entity, the model attributes are mapped to attributes of the class of the underlying instance via "Class View Mappings" table 231 to determine the values of the template attributes. In particular, the template identifier, originally determined from the "Template" field 233-4 of the class view entry in the "Class Views" table 233 is used to fetch entries in the "Template Attributes" table 237. The name of each template attribute, derived from the "Name" field 237-2, and a class view identifier from the "View" field 233-1 is used to fetch a class view mapping entry in the "Class View Mappings" table 231. If no such entry is found in the "Class View Mappings" table 231, then the value in the "Default Value" field 237-3 is used.

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133. (new) A computer readable medium having sequences of instructions stored therein, which when executed cause the processor in a computer to perform a data method, comprising:
    using metadata mapping to integrate organization related data in accordance with xml metadata.

What is not described, made obvious or anticipated:
    1) using metadata mapping to integrate organization related data in accordance with xml metadata

Objection: The Applicant objects to the statement that "Ranger teaches using metadata mapping to integrate organization related data in accordance with xml metadata" as it does not appear to be supported by the cited reference.

Conclusion: Claim 133 is not described, anticipated or made obvious by the combination of Ching and Ranger. Ranger teaches away from the method of claim 133.

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134. (new) The computer readable medium of claim 133 where organization related data are obtained from the group consisting of advanced financial systems, basic financial systems, alliance management systems, brand management systems, customer relationship management systems, channel management systems, intellectual property management systems, process management systems, vendor management systems, operation management systems, sales management systems, human resource systems, accounts receivable systems, accounts payable systems, capital asset systems, inventory systems, invoicing systems, payroll systems, enterprise resource planning systems (ERP), material requirement planning systems (MRP), scheduling systems, quality control systems, purchasing systems and combinations thereof.

What is not described, made obvious or anticipated:
    1) using metadata mapping to integrate organization related data in accordance with xml metadata (see claim 133), and
    2) where organization related data are obtained from the group consisting of advanced financial systems, basic financial systems, alliance management systems, brand management systems, customer relationship management systems, channel management systems, intellectual property management systems, process management systems, vendor management systems, operation management systems, sales management systems, human resource systems, accounts receivable systems, accounts payable systems, capital asset systems, inventory systems, invoicing systems, payroll systems, enterprise resource planning systems (ERP), material requirement planning systems (MRP), scheduling systems, quality control systems, purchasing systems and combinations thereof.

Conclusion: Claim 134 is not described, anticipated or made obvious by the combination of Ching and Ranger.

Objection: The Applicant objects to the statement that "Ranger teaches using metadata mapping to integrate organization related data in accordance with xml metadata" as it does not appear to be supported by the cited reference.

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135. (new) The computer readable medium of claim 133 where the metadata mapping is established using a metadata and conversion rules window.

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What is not described, made obvious or anticipated:
1) using metadata mapping to integrate organization related data in accordance with xml metadata (see claim 133), and   2) establishing metadata mapping with a metadata and conversion rules window.
Objection: The Applicant objects to the statement that "Ranger teaches establishing metadata mapping using a metadata and conversion rules window" as it does not appear to be supported by the cited reference.
Conclusion: Claim 135 is not described, anticipated or made obvious by the combination of Ching and Ranger. .

136. (new) The computer readable medium of claim 133 where some data from the group consisting of component of value data, sub component of value data, known value drivers and combinations thereof are pre-specified for mapping.

What is not described, made obvious or anticipated:
    1) using metadata mapping to integrate organization related data in accordance with xml metadata (see claim 133), and
    2) data from the group consisting of component of value data, sub component of value data, known value drivers and combinations thereof are pre-specified for mapping.

Objection: The Applicant objects to the statement that "Ranger teaches where some data from the group consisting of component of value data, sub component of value data, known value drivers and combinations thereof are pre specified for mapping" as it does not appear to be supported by the cited reference.
Conclusion: Claim 136 is not described, anticipated or made obvious by the combination of Ching and Ranger.

137. (new) The computer readable medium of claim 136 where the integrated data is stored in tables.

What is not described, made obvious or anticipated:
    1) using metadata mapping to integrate organization related data in accordance with xml metadata (see claim 133), and
    2) data from the group consisting of component of value data, sub component of value data, known value drivers and combinations thereof are pre-specified for mapping (see claim 136), and
    3) storing integrated data in tables.

Objection: The Applicant objects to the statement that "Ranger teaches storing integrated data in tables" as it does not appear to be supported by the cited reference.
Conclusion: Claim 137 is not described, anticipated or made obvious by the combination of Ching and Ranger.

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138. (new) Independent software components that use metadata mapping to integrate organization related data in accordance with xml metadata.

What is not described, made obvious or anticipated:
    1) Independent software components that use metadata mapping to integrate organization related data in accordance with xml metadata

Conclusion: Claim 138 is not described, anticipated or made obvious by the combination of Ching and Ranger.

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139. (new) The independent software components of claim 138 where organization related data are obtained from the group consisting of advanced financial systems, basic financial systems, alliance management systems, brand management systems, customer relationship management systems, channel management systems, intellectual property management systems, process management systems, vendor management systems, operation management systems, sales management systems, human resource systems, accounts receivable systems, accounts payable systems, capital asset systems, inventory systems, invoicing systems, payroll systems, enterprise resource planning systems (ERP), material requirement planning systems (MRP), scheduling systems, quality control systems, purchasing systems and combinations thereof.

What is not described, made obvious or anticipated:
    1) Independent software components that use metadata mapping to integrate organization related data in accordance with xml metadata (see claim 138), and
    2) where organization related data are obtained from the group consisting of advanced financial systems, basic financial systems, alliance management systems, brand management systems, customer relationship management systems, channel management systems, intellectual property management systems, process management systems, vendor management systems, operation management systems, sales management systems, human resource systems, accounts receivable systems, accounts payable systems, capital asset systems, inventory systems, invoicing systems, payroll systems, enterprise resource planning systems (ERP), material requirement planning systems (MRP), scheduling systems, quality control systems, purchasing systems and combinations thereof.

Conclusion: Claim 139 is not described, anticipated or made obvious by the combination of Ching and Ranger.

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140. (new) The independent software components of claim 138 where the metadata mapping is established using a metadata and conversion rules window.

What is not described, made obvious or anticipated:
    1) Independent software components that use metadata mapping to integrate organization related data in accordance with xml metadata (see claim 138), and
    2) Establishing metadata mapping using a metadata and conversion rules window.

Objection: The Applicant objects to the statement that "Ranger teaches that metadata mapping is established using a metadata and conversion rules window" as it does not appear to be supported by the cited reference.

Conclusion: Claim 140 is not described, anticipated or made obvious by the combination of Ching and Ranger.

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141. (new) The independent software components of claim 138 where some data are pre-specified for mapping.

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What is not described, made obvious or anticipated:
1) Independent software components that use metadata mapping to integrate organization related data in accordance with xml metadata (see claim 138), and
2) where some data are pre-specified for mapping.

Objection: The Applicant objects to the statement that "Ranger teaches where some data are pre-specified for mapping" as it does not appear to be supported by the cited reference.

Conclusion: Claim 140 is not described, anticipated or made obvious by the combination of Ching and Ranger.

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142. (new) The independent software components of claim 141 where the data pre-specified for mapping are selected from the group consisting of component of value data, sub component of value data, known value drivers and combinations thereof.

What is not described, made obvious or anticipated:
1) Independent software components that use metadata mapping to integrate organization related data in accordance with xml metadata (see claim 138),
2) where some data are pre-specified for mapping (see claim 141), and
3) the data pre-specified for mapping are selected from the group consisting of component of value data, sub component of value data, known value drivers and combinations thereof.

Objection: The Applicant objects to the statement that "Ranger teaches where the data pre-specified for mapping are selected from the group consisting of component of value data, sub component of value data, known value drivers and combinations thereof" as it does not appear to be supported by the cited reference.

Conclusion: Claim 142 is not described, anticipated or made obvious by the combination of Ching and Ranger.

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143. (new) The independent software components of claim 141 that further comprise bots.

What is not described, made obvious or anticipated:
1) Independent software components that use metadata mapping to integrate organization related data in accordance with xml metadata (see claim 138), and
2) where some data are pre-specified for mapping (see claim 141).

Conclusion: Claim 143 is not described, anticipated or made obvious by the combination of Ching and Ranger.

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144. (new) The independent software components of claim 141 where the integrated data is stored in tables.

What is not described, made obvious or anticipated:
   1) Independent software components that use metadata mapping to integrate organization related data in accordance with xml metadata (see claim 138),
   2) where some data are pre-specified for mapping (see claim 141), and
   3) where integrated data is stored in tables.

Objection: The Applicant objects to the statement that "Ranger teaches where integrated data is stored in tables" as it does not appear to be supported by the cited reference.

Conclusion: Claim 144 is not described, anticipated or made obvious by the combination of Ching and Ranger.

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145. (new) The independent software components of claim 144 where one axis of each table is defined by the time periods that require data.

What is not described, made obvious or anticipated:
   1) Independent software components that use metadata mapping to integrate organization related data in accordance with xml metadata (see claim 138),
   2) where some data are pre-specified for mapping (see claim 141),
   3) where integrated data is stored in tables (claim 144), and
   4) where one axis of each table is defined by the time periods that require data.

Objection: The Applicant objects to the statement that "Ranger teaches where one axis of each table is defined by the time periods that require data" as it does not appear to be supported by the cited reference.

Conclusion: Claim 145 is not described, anticipated or made obvious by the combination of Ching and Ranger.

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146. (new) The independent software components of claim 144 where one axis of each table is defined by data from the group consisting of components of value, sub components of value, known value drivers, elements of value, non-relevant attributes and combinations thereof.

What is not described, made obvious or anticipated:
   5) Independent software components that use metadata mapping to integrate organization related data in accordance with xml metadata (see claim 138),
   6) where some data are pre-specified for mapping (see claim 141),
   7) where integrated data is stored in tables (claim 144), and
   8) where one axis of each table is defined by data from the group consisting of components of value, sub components of value, known value drivers, elements of value, non-relevant attributes and combinations thereof..

Objection: The Applicant objects to the statement that "Ranger teaches where one axis of each table is defined by data from the group consisting of components of value, sub components of value, known value drivers, elements of value, non-relevant attributes and combinations thereof." as it does not appear to be supported by the cited reference.

Conclusion: Claim 146 is not described, anticipated or made obvious by the combination of Ching and Ranger.

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Another way in which the 23 February 2005 office action fails to establish a prima facie case of obviousness for these claims is that it does not provide any evidence indicating that there was any suggestion, teaching or motivation in the prior art to modify or combine the teachings of Ching and Ranger. When determining obviousness, "a showing of a suggestion, teaching or motivation to combine prior art references is an essential component of an obviousness holding'" (In re Fine, 837 F.2d 1071, 1075, 5 USPQ2d 1596, 1600 (Fed. Cir. 1988)).

In the 23 February 2005 office action, claims 147 – 149 are rejected under 35 U.S.C. §103 (a) as being unpatentable over the combination of U.S. Patent 6,078,901 (hereinafter, Ching) and in view of US Patent 6,112,188 (hereinafter, Hartnett). The Applicant respectfully traverses all §103 rejections for claims 147 - 149 by noting that the 23 February 2005 office action fails to establish the prima facie case of obviousness required to sustain § 103 rejections. A prima facie case for obviousness requires, among other things, a combination or modification of references that would make the invention obvious and a suggestion to combine or modify the references. More specifically, MPEP § 2143.01 provides:

> The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination.

The Applicant will detail at least two ways in which the 23 February 2005 office action fails to establish a prima facie case of obviousness for claims each of the claims 147 – 149 while noting that there are several other ways in which the §103 rejections for these claims can be traversed.

One of the ways in which the 23 February 2005 office action fails to establish a prima facie case of obviousness for these claims is that it does not include references that can be combined or modified to describe a single claim, any combination of claims 147 – 149 or the invention as a whole as detailed below. The discussion of claim 107 already detailed the fact that Ching does not teach risk quantification and in fact teaches away from risk quantification. In the 23 February 2005 office action the Examiner cites a number of passages within Hartnett to support the contention that Hartnett combined with Ching quantifies organization risk by element of value and displaying the results to support the §103 rejection of claim 147. The passages cited by the Examiner have been fully considered. However, it is more instructive to review the teachings of Hartnett on risk. The table below shows all the references in Hartnett to risk and documents the fact that Hartnett teaches nothing about risk quantification

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Hartnett Excerpt	Teaching on risk quantification
While it is not possible to construct a single best social welfare function either by aggregating individual utility functions or even by examining societal choices, it appears that the increment to financial welfare of lucky recipients would be less than the decrement to financial welfare of the rest of the population. One reason is the diminishing marginal utility of increases in wealth. Another reason is because the enterprise stock is riskier in the lucky recipient's portfolio. The increased risk is due to the tripled exposure of an individual stock relative to the general market and also due to the dramatically high correlation between the value of a lucky recipient's enterprise stock (comprising over 80% of financial savings) and his or her job. This increased risk results in a higher implicit discount rate and a lower present value of the earnings stream. It would be more efficient, albeit transparently inequitable, to appease industrial employees by either direct cash payments or by simply increasing their proportionate share of stock in all enterprises combined.	None
The net result is a newly private enterprise able to write its future on a clean slate. Such an enterprise can attract risk capital as a viable investment opportunity. Universal distribution can be simplified by allocating each citizen a single "Stock Market Unit" (SMU), consisting of the right to one share of each enterprise privatized within some initial period, such as by the end of 1993. This asset is designed to be fungible and liquid.	None
A legitimate and perhaps quite sophisticated strategy can be to simply hold them and collect the dividends. Since the original distribution is liable to resemble low-priced out of the money call options with extremely uncertain valuation and high implicit discount rates, a "hold strategy" will allow recipients to reap the capital appreciation as the society stabilizes, leading to falling risk premia and implicit discount rates. The alternative is for that appreciation to accrue to sophisticated risk capital, with adverse distributional effects. To constrain the rate at which people make investment mistakes, vesting intervals such as 20% a year for five years could be imposed on alienability. This could correspond to the expected learning curve in the society, while stabilizing the market by avoiding sudden oversupply. However, to accelerate portfolio adjustments, stock ownership concentration, and a reversal of the communist legacy of "learned helplessness", immediate vesting may well be preferable.	None
Perhaps the most powerful nation-state in the world, together with its allies, can afford the risk of energetically aiding the transition of newly democratic nations. By fostering western values, the wealthy democracies would in a fundamental sense be reinforcing their own identities. Perhaps the scoreboard of democracy, up to 62 countries representing 44% of the world's population, can gain momentum as the half-way mark is passed. If fear of the Other is such a potent source of hostility, then perhaps the best way to make the world safe for democracy is simply to make the world itself democratic.	None
However, the nature of the processing cycle and serial storage media make it difficult to verify that the asset actually existed in the specified quantity in the portfolio of the deceased. Therefore, the legatee may assume any risk associated with entering a transaction involving that	None

asset which must be subsequently "reversed.")		

147. (new) An apparatus comprising:
    enterprise transaction systems,
    means for integrating data from said systems,
    means for storing said data, and
    means for quantifying organization risks by category of value using at least a portion of the data
        where the categories of value are selected from the group consisting of current operation, real options, market sentiment and combinations thereof, and
        where the risks are selected from the group consisting of alliance risks, brand risks, channel risks, commodity price risks, consumer confidence level risks, contingent liabilities, customer risks, customer relationship risks, earthquake risks, employee risks, expected earnings risks, fire risks, flood risks, gross domestic product risks, inflation rate risks, insider trading risks, intellectual property risks, interest rate risks, partnership risks, process risks, production equipment risks, supply chain risks, unemployment rate risks, vendor risks, vendor relationship risks, volatility risks, weather risks and combinations thereof.

What is not described, made obvious or anticipated:
    1. enterprise transaction systems,
    2. integration and storage of data from transaction systems, and
    3. quantification of any risk (see claim 107 discussion and Hartnett reference review)

Objections: The Applicant objects to the statements that Ching discloses:
    1) quantifying organization risk by element of value using at least a portion of the data (see claim 107 discussion),
    2) means for displaying the quantified risks using a paper document or electronic display,
    3) means for integrating data from said systems,
    4) means for quantifying organization risks by category of value using at least a portion of the data where the categories of value are selected from the group consisting of current operation, real options, market sentiment and combinations thereof, (again see claim 107), and
    5) where the risks are selected from the group consisting of alliance risks, brand risks, channel risks, commodity price risks, consumer confidence level risks, contingent liabilities, customer risks, customer relationship risks, earthquake risks, employee risks, expected earnings risks, fire risks, flood risks, gross domestic product risks, inflation rate risks, insider trading risks, intellectual property risks, interest rate risks, partnership risks, process risks, production equipment risks, supply chain risks, unemployment rate risks, vendor risks, vendor relationship risks, volatility risks, weather risks and combinations thereof (see claim 107 discussion)
as they do not appear to be supported by the cited reference.

Conclusion: Claim 147 is not described, anticipated or made obvious by Ching and/or the combination of Ching and Hartnett.

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148. (previously added) The computer readable medium of claim 147 where organization related data is obtained from the group consisting of advanced financial systems, basic financial systems, web site management systems, alliance management systems, brand management systems, customer relationship management systems, channel management systems, intellectual property management systems, process management systems, vendor management systems, operation management systems, sales management systems, human resource systems, accounts receivable systems, accounts payable systems, capital asset systems, inventory systems, invoicing systems, payroll systems, enterprise resource planning systems (ERP), material requirement planning systems (MRP), scheduling systems, quality control systems, purchasing systems, the Internet, external databases, user input and combinations thereof.

What is not described, made obvious or anticipated:
1. quantification of any risk (see claim 147)
2. where data are obtained from the group consisting of advanced financial systems, basic financial systems, web site management systems, alliance management systems, brand management systems, customer relationship management systems, channel management systems, intellectual property management systems, process management systems, vendor management systems, operation management systems, sales management systems, human resource systems, accounts receivable systems, accounts payable systems, capital asset systems, inventory systems, invoicing systems, payroll systems, enterprise resource planning systems (ERP), material requirement planning systems (MRP), scheduling systems, quality control systems, purchasing systems, the Internet, external databases, user input and combinations thereof (see claim 110).

Objection: The Applicant objects to the statement that "Ching further discloses where transaction systems are selected from the group consisting of advanced financial systems, basic financial systems, alliance management systems, brand management systems, customer relationship management systems, channel management systems, intellectual property management systems, process management systems, vendor management systems, operation management systems, sales management systems, human resource systems, accounts receivable systems, accounts payable systems, capital asset systems, inventory systems, invoicing systems, payroll systems, enterprise resource planning systems (ERP), material requirement planning systems (MRP), scheduling systems, quality control systems, purchasing systems and combinations thereof" as it does not appear to be supported by the cited reference.

Conclusion: Claim 148 is not described, anticipated or made obvious by Ching and/or the combination of Ching and Hartnett.

149. (new) The apparatus of claim 147 further comprising:
    means for calculating the amount of capital available for risk reduction purchases using said data,
    means for identifying the optimal mix of risk reduction purchases and risk reduction activities given the quantified risks and available capital, and
    means for implementing the optimal mix of risk reduction products and risk reduction activities in an automated fashion.

What is not described, made obvious or anticipated:
    1) quantification of any risk (see claim 107 and 147)
    2) identification of the optimal mix of risk reduction products and risk reduction
        activities (see claim 107 and claim 108 discussion)

Objections: The Applicant objects to the statement that "Ching discloses means for calculating the amount of capital available for risk reduction purchases using said data, means for identifying the optimal mix of risk reduction purchases and risk reduction activities given the quantified risks and available capital, and means for implementing the optimal mix of risk reduction products and risk reduction activities in an automated fashion" as it does not appear to be supported by the cited reference.
Conclusion: Claim 149 is not described, anticipated or made obvious by Ching and/or the combination of Ching and Hartnett.

Another way in which the 23 February 2005 office action fails to establish a prima facie case of obviousness for claims 147 – 149 is that it does not provide any evidence indicating that there was any suggestion, teaching or motivation in the prior art to modify or combine the teachings of Ching and Hartnett. When determining obviousness, "a showing of a suggestion, teaching or motivation to combine prior art references is an essential component of an obviousness holding'" (In re Fine, 837 F.2d 1071, 1075, 5 USPQ2d 1596, 1600 (Fed. Cir. 1988)). The Applicant also notes that there are still other ways in which all § 103 (a) obviousness rejections of these claims in the 23 February 2005 office action can be traversed.

In the 23 February 2005 office action, claims 150 – 156 are rejected under 35 U.S.C. § 103 (a) as being unpatentable over the combination of U.S. Patent 6,078,901 (hereinafter, Ching) and US Patent 6,112,188 (hereinafter, Hartnett) in further view of and U.S. Patent 6,301,584 (hereinafter, Ranger). The Applicant respectfully traverses all § 103 rejections for claims 150 - 156 by noting that the 23 February 2005 office action fails to establish the prima facie case of obviousness required to sustain § 103 rejections. A prima facie case for obviousness requires, among other things, a combination or modification of references that would make the invention obvious and a suggestion to combine or modify the references. More specifically, MPEP §2143.01 provides:

> The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination.

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The Applicant will detail at least two ways in which the 23 February 2005 office action fails to establish a prima facie case of obviousness for claims each of the claims 150 – 156 while noting that there are several other ways in which the § 103 rejections for these claims can be traversed. The cited references used to support the rejection of claim 150 – 156 are the same references cited for the

150. (new) The apparatus of claim 147 where the means for integrating data further comprises integrating data in accordance with a format defined by xml metadata using metadata mapping and conversion.

What is not described, made obvious or anticipated:
      1) integrating data in accordance with a format defined by xml metadata using
         metadata mapping and conversion (see claims 133 and 138)

Objection: The Applicant objects to the statement that "Ranger integrates data in accordance with a format defined by xml metadata using metadata mapping and conversion," as it does not appear to be supported by the cited reference.
Conclusion: Claim 150 is not described, anticipated or made obvious by the combination of Ching, Hartnett and/or Ranger.

151. (new) The apparatus of claim 150 where metadata mapping specifications are established using a metadata and conversion rules window.

What is not described, made obvious or anticipated:
      1) integrating data in accordance with a format defined by xml metadata using
         metadata mapping and conversion (see claims 133, 138 and 150), and
      2) where metadata mapping specifications are established using a metadata and
         conversion rules window (see claims135 and 140)

Objection: The Applicant objects to the statement that "Ranger supports metadata mapping specifications being established using a metadata and conversion rules window" as it does not appear to be supported by the cited reference.
Conclusion: Claim 151 is not described, anticipated or made obvious by the combination of Ching, Hartnett and Ranger.

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152. (new) The apparatus of claim 151 where some data is pre-specified for mapping and the data pre-specified for mapping are selected from the group consisting of component of value data, sub component of value data, known value driver data and combinations thereof.

What is not described, made obvious or anticipated:
1) integrating data in accordance with a format defined by xml metadata using metadata mapping and conversion (see claims 133, 138 and 150), and
2) where metadata mapping specifications are established using a metadata and conversion rules window (see claims 135, 140 and 151)
3) where some data are pre-specified for mapping (see claim 141).

Objection: The Applicant objects to the statement that "Ranger teaches where some data is pre-specified for mapping and the data pre-specified for mapping are selected from the group consisting of component of value data, sub component of value data, known value driver data and combinations thereof in tables" as it does not appear to be supported by the cited reference.

Conclusion: Claim 152 is not described, anticipated or made obvious by the combination of Ching, Hartnett and Ranger.

153. (new) The apparatus of claim 150 where the means integrating data from said systems in accordance with a format defined by xml metadata further comprises the use of independent software components to complete the integration.

What is not described, made obvious or anticipated:
1) integrating data in accordance with a format defined by xml metadata using metadata mapping and conversion (see claims 133, 138 and 150)

Objection: The Applicant objects to the statement that "Ranger teaches where the means integrating data from said systems in accordance with a format defined by xml metadata further comprises the use of independent software components to complete the integration" as it does not appear to be supported by the cited reference.

Conclusion: Claim 153 is not described, anticipated or made obvious by the combination of Ching, Hartnett and Ranger.

154. (new) The apparatus of claim 150 where one axis of each table is defined by the time periods that require data.

What is not described, made obvious or anticipated:
1) integrating data in accordance with a format defined by xml metadata using metadata mapping and conversion (see claims 133, 138 and 150), and
2) where one axis of each table is defined by the time periods that require data.

Objection: The Applicant objects to the statement that "Ranger teaches where one axis of each table is defined by the time periods that require data" as it does not appear to be supported by the cited reference.

Conclusion: Claim 154 is not described, anticipated or made obvious by the combination of Ching, Hartnett and Ranger.

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155. (new) The apparatus of claim 150 where one axis of each table is defined by data from the group consisting of components of value, sub components of value, known value drivers, elements of value, non-relevant attributes and combinations thereof.
What is not described, made obvious or anticipated: 1) integrating data in accordance with a format defined by xml metadata using metadata mapping and conversion (see claims 133, 138 and 150), and 2) where one axis of each table is defined by data from the group consisting of components of value, sub components of value, known value drivers, elements of value, non-relevant attributes and combinations thereof.
Objection: The Applicant objects to the statement that "Ranger teaches where one axis of each table is defined by data from the group consisting of components of value, sub components of value, known value drivers, elements of value, non-relevant attributes and combinations thereof" as it does not appear to be supported by the cited reference.
Conclusion: Claim 155 is not described, anticipated or made obvious by the combination of Ching, Hartnett and Ranger.

156. (new) The apparatus of claim 150 where the xml metadata format further comprises a network schema.
What is not described, made obvious or anticipated: 1) integrating data in accordance with a format defined by xml metadata using metadata mapping and conversion (see claims 133, 138 and 150), and 2) a network schema
Objection: The Applicant objects to the statement that
Conclusion: Claim 156 is not described, anticipated or made obvious by the combination of Ching, Hartnett and Ranger.

Another way in which the 23 February 2005 office action fails to establish a prima facie case of obviousness for claims 150 – 156 is that it does not provide any evidence indicating that there was any suggestion, teaching or motivation in the prior art to modify or combine the teachings of Ching, Ranger and Hartnett. When determining obviousness, "a showing of a suggestion, teaching or motivation to combine prior art references is an essential component of an obviousness holding'" (In re Fine, 837 F.2d 1071, 1075, 5 USPQ2d 1596, 1600 (Fed. Cir. 1988)). The Applicant also notes that there are still other ways in which all §103 obviousness rejections of these claims in the 23 February 2005 office action can be traversed.

35 U.S.C. § 112 Claim Rejection

In the 23 February 2005 office action, claims 138 - 144 are rejected under 35 U.S.C. 112, second paragraph. The rejection is apparently based on the Examiner's opinion that "Claim 138 does not include step(s) which are inventive step(s) (because) any software capable of formatting non - xml to xml format can do the job". The Applicant respectfully traverses this rejection by noting that the rejection does not appear to be a proper rejection under the second paragraph of 35 U.S.C. 112 and that office action does not to provide any evidence to support the statement used as the apparent basis for the rejection. It is well established that substantial evidence is required to support decisions made by the PTO (In re Gartside 203F.3d 1305, 53 USPQ2d 1769 (Fed Circuit 2000)). Furthermore, the rejection is moot because the rejected claims have been cancelled.

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Information Disclosure Statement

Pursuant to 37 CFR 1.97 and 1.98, the references listed on the enclosed Form PTO – 1449's and/or Substitute Form PTO – 1449's ("Form 1449") are submitted for consideration by the Examiner in the examination of the instant patent application. These references have become known in the last three months.

The full consideration of the references in their entirety by the Examiner is respectfully requested and encouraged. Also, it is respectfully requested that the references be entered into the record of the present application and that the Examiner place his or her initials in the appropriate area on the enclosed Form 1449, thereby indicating the Examiner's consideration of each of the references.

The submission of the references listed on the Form 1449 is for the purpose of providing a complete record and is not a concession that the references listed thereon are prior art to the invention claimed in the patent application. The right is expressly reserved to establish an invention date earlier than the above - identified filing date in order to remove any reference submitted herewith as prior art should it be deemed appropriate to do so.

Further, the submission of the references is not to be taken as a concession that any reference represents art that is relevant or analogous to the claimed invention. Accordingly, the right to argue that any reference is not properly within the scope of prior art relevant to an examination of the claims in the above-identified application is also expressly reserved.

The Applicant also notes that previously submitted copies of Form 1449 were not initialed and returned. More specifically:

1) 8 pages of Form 1449 submitted via express mail on March 5, 2004 , and
2) 2 pages of Form 1449 received on January 10, 2005 in

The 8 pages submitted in March 2004 appear to be missing as they do not appear in the Internet File Wrapper for the Instant Application. A copy of the 8 pages that appear to be missing will be sent via fax along with copies of the receipt and mailing information. The 2 pages of Form 1449 submitted in January 2005 appear in the Internet File Wrapper for the Instant Application - the reason they were not initialed and returned is unclear.

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Reservation of Rights

The Applicant hereby explicitly reserves the right to present the canceled and modified claims for re-examination in their original format. The cancellation and modification of the pending claims is not to be construed as a surrender of subject matters covered by the original claims before their modification or cancellation.

Payment Enclosed

Payment for the claims added to the instant application has been enclosed. The amount was determined using the enclosed fee determination worksheet.

Summary/Conclusion

The Applicant respectfully requests consideration of the present application as amended herewith.

Respectfully submitted,

Jeff S. Eder, Reg. No. 52,849
Dated: May 4, 2005